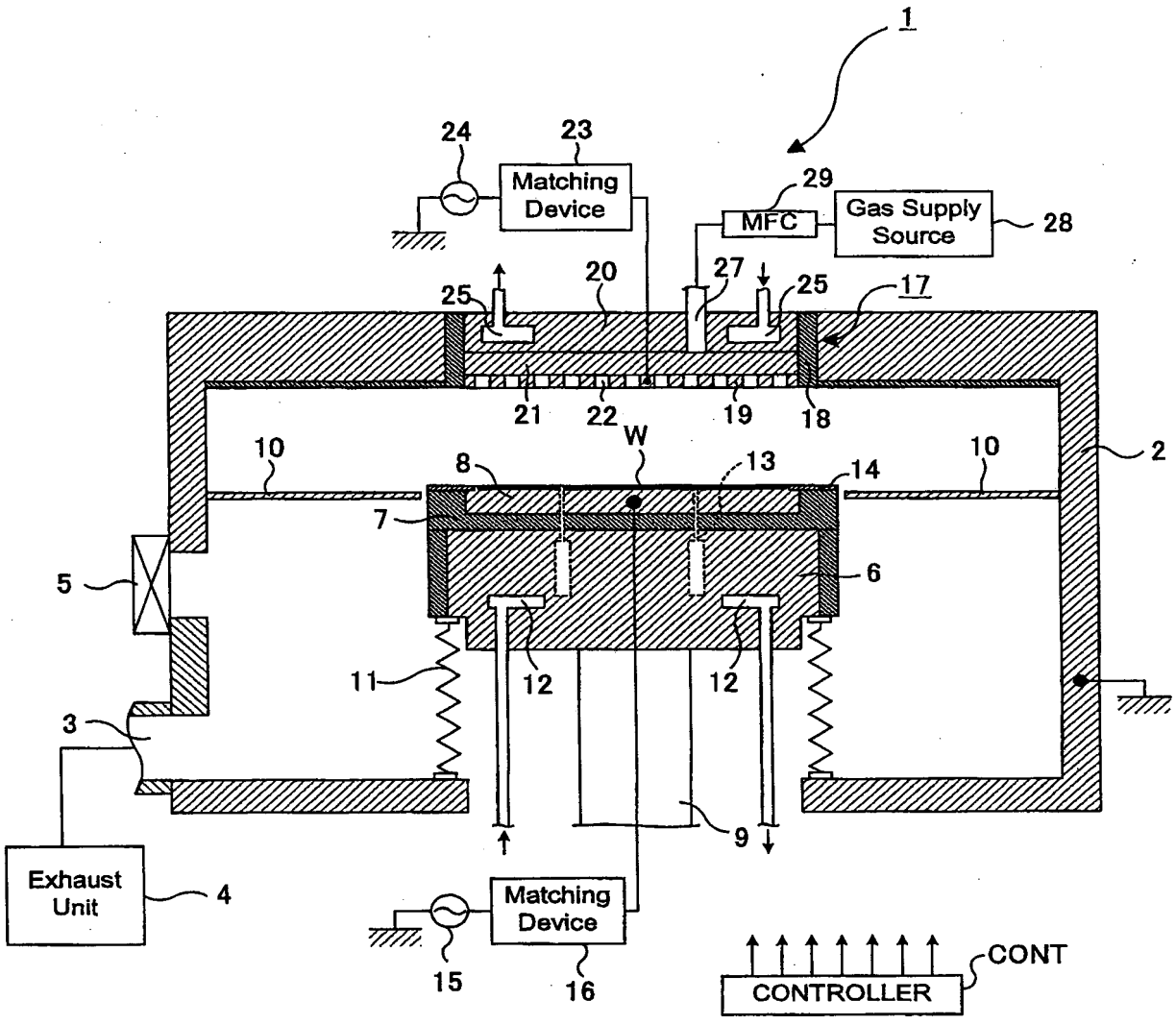
1
24
23
Matching Device
29
MFC
Gas Supply Source
28
25
20
27
25
17
21
22
19
18
W
10
8
13
14
10
2
7
6
5
11
12
12
3
9
Exhaust Unit
4
Matching Device
15
16
CONTROLLER
CONT

FIG.1

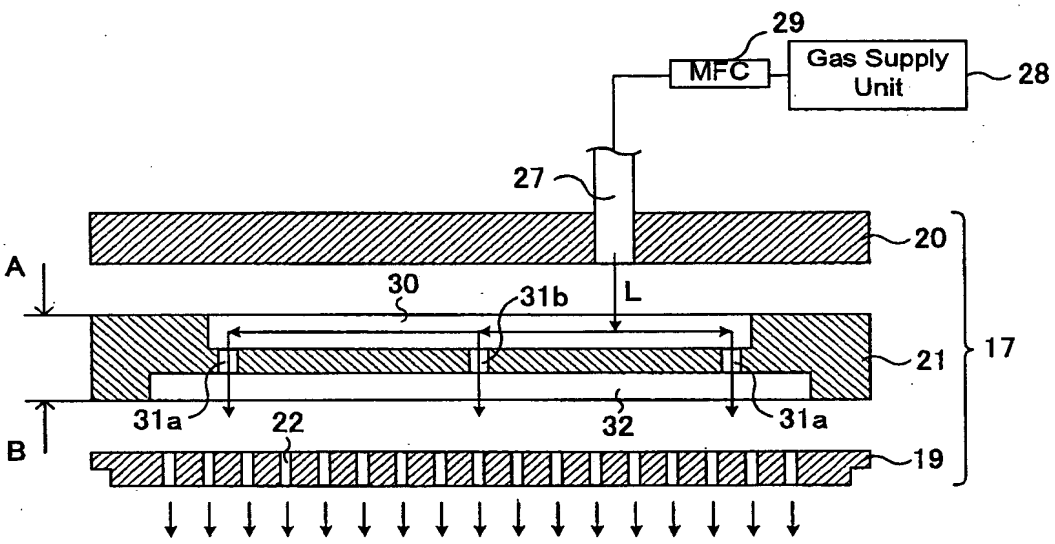

FIG.2

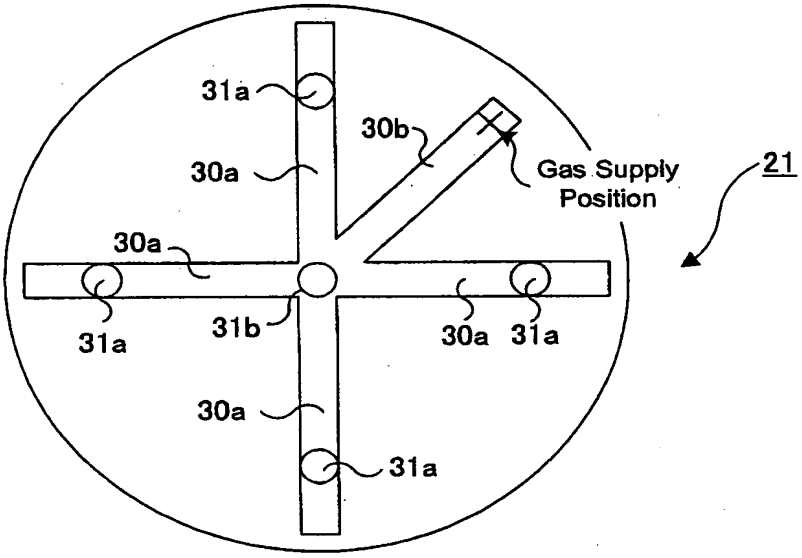

FIG.3 Diagram As Seen From Arrow A

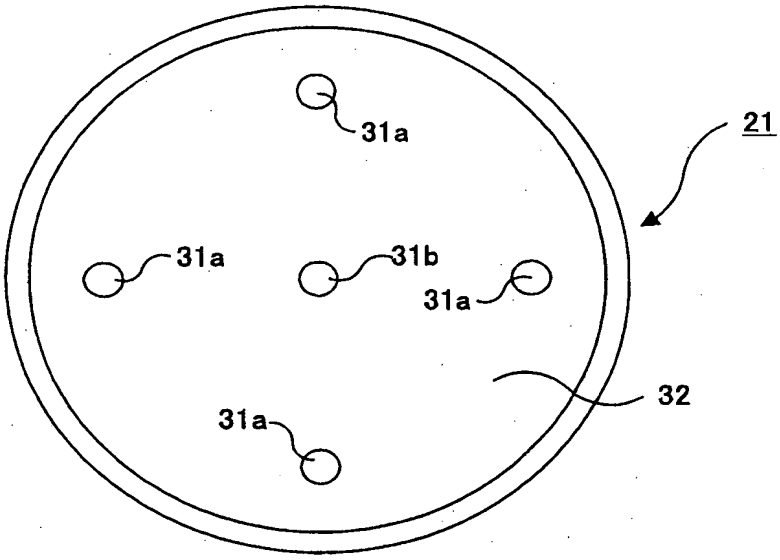

FIG.4 Diagram As Seen From Arrow B

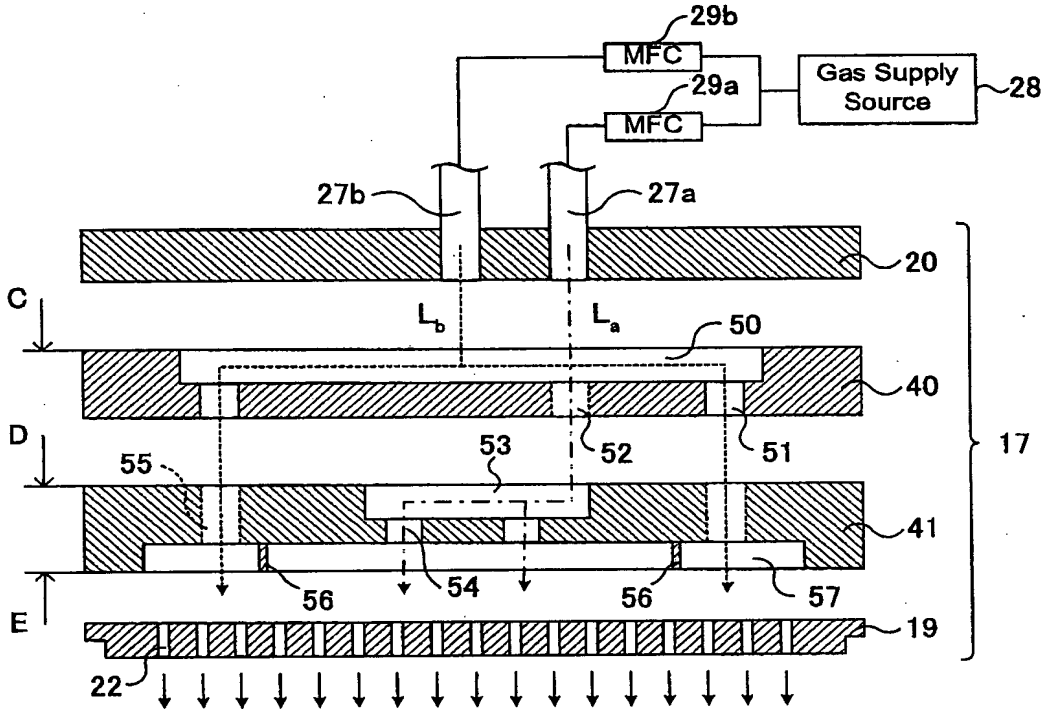

FIG.5

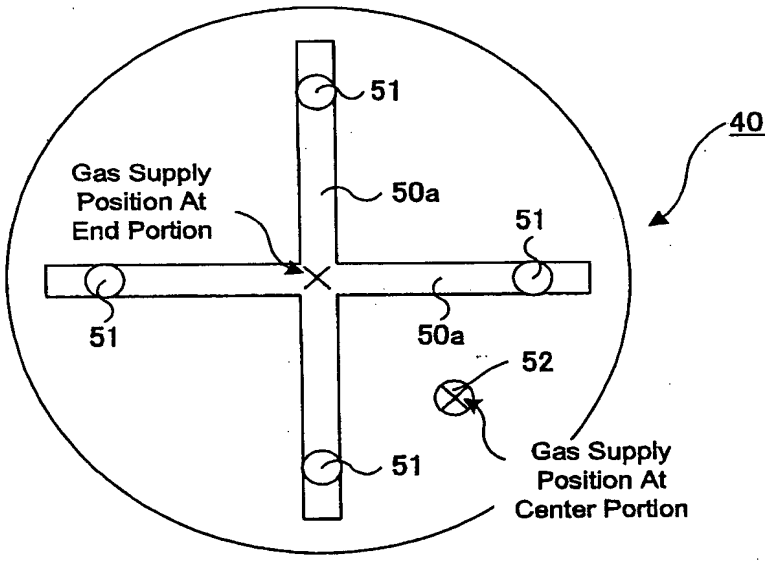

FIG.6 Diagram As Seen From Arrow C

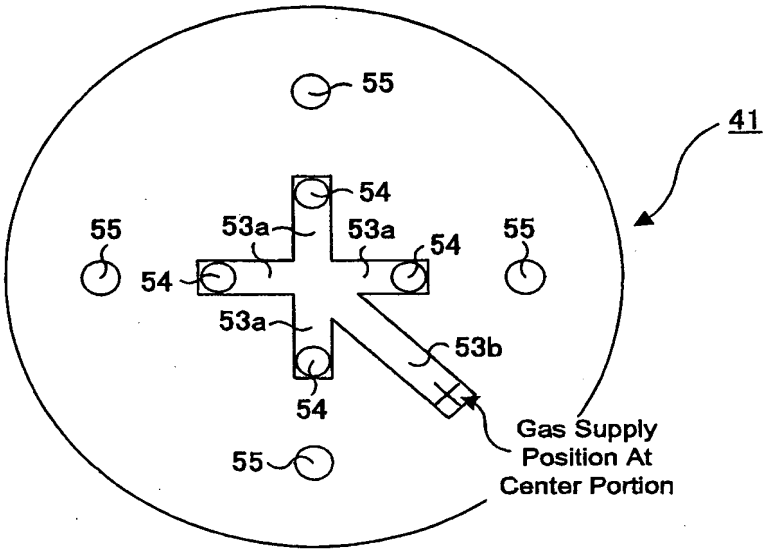

FIG.7 Diagram As Seen From Arrow D

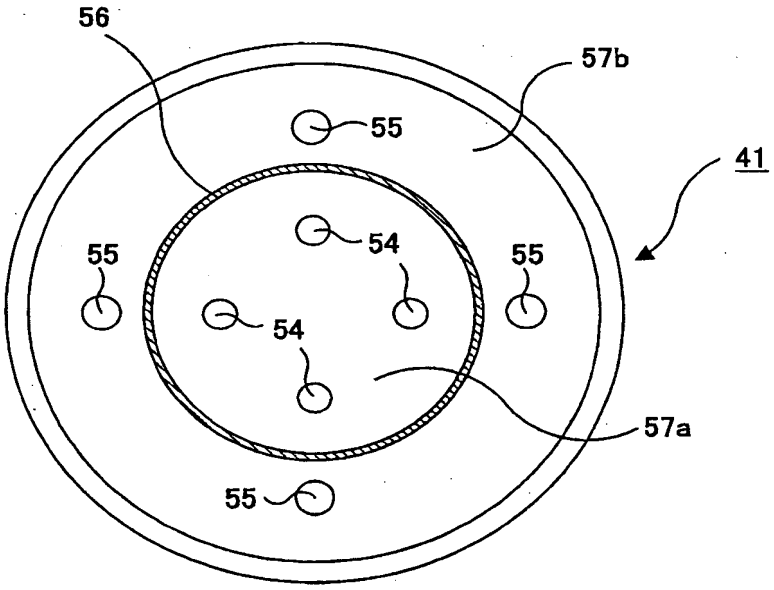

FIG.8 Diagram As Seen From Arrow E

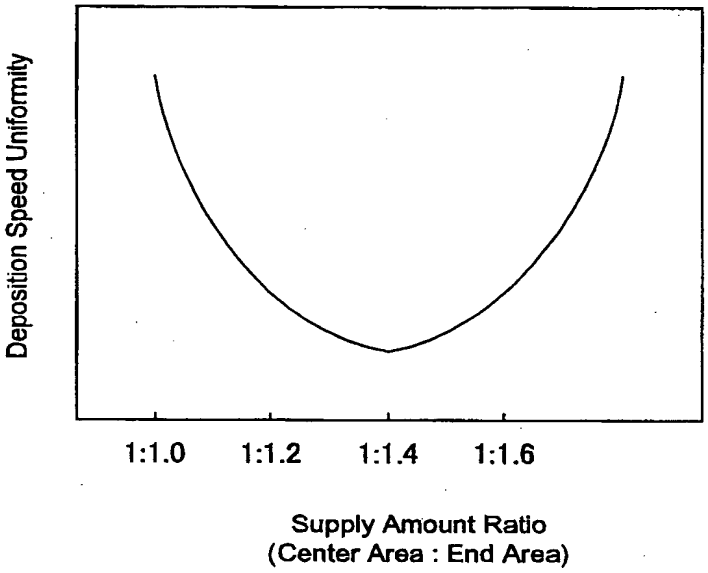
Deposition Speed Uniformity
1:1.0
1:1.2
1:1.4
1:1.6
Supply Amount Ratio
(Center Area : End Area)

FIG.9

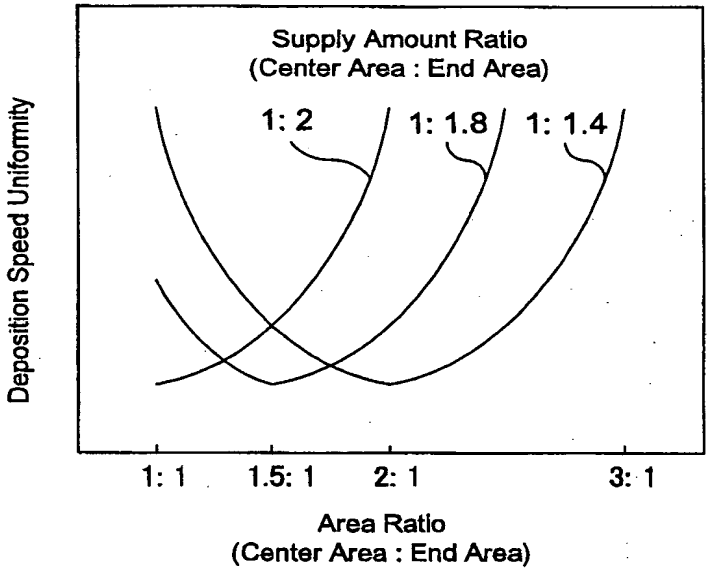
Supply Amount Ratio
(Center Area : End Area)
1: 2
1: 1.8
1: 1.4
Deposition Speed Uniformity
1: 1
1.5: 1
2: 1
3: 1
Area Ratio
(Center Area : End Area)

FIG.10

Gas Species	SiH4/O2/Ar	SiF4/SiH4/O2/Ar	SiH4/CH4/Ar	SiH4/N2/Ar	SiH4/N2/CH4/Ar	C6F6/Ar	3MS/(Ar or He)	3MS/O2/Ar
Gas Flow Rate (sccm)	200/500/50	120/80/400/50	10/20/200	45/175/200	10/10/15/200	30/200	60/200	60/15/200
Center Area : End Area	1:1	1:4	1:4	1:2	1:4	1:1.5	1:0.25	1:0.25
Pressure (Pa)	0.25	1.0	2.0	1.0	2.0	30	30	50
Upper Electrode Power (kW)	2.7	2.7	1.0	1.0	1.0	1.0	0.6	0.6
Lower Electrode Power (kW)	1.0	1.0	0.5	0.5	0.5	0.2	0.1	0.1
Substrate Teperature(°C)	350-390	350-390	350-390	350-390	350-390	350-390	250-400	250-400

FIG.11

	Substitutable Gases
SiH4	TEOS, Si2H6
SiF4	SiH2F2, Si2F6
CH4	C2H6, C3H8, C2H4, C2H2
C6F6	CF4, C2F6, C3F8, C5F8
N2	N2O, NO
O2	N2O, NO, CO, CO2, O3
(CH3)3SiH Trimethylsilane	(CH3)SiH3, (CH3)2SiH2, (CH3)4Si, DMDM, TMCTS, V3D3, HMDSO, OMCATS

DMDM: Dimethyldimethoxysilane
TMCTS: 1,3,5,7-Tetramethylcyclotetrasiloxane
V3D3: 1,3,5-Trimethyl-1,3,5-trivinylcyclotrisiloxane
HMDSO: Hexamethoxydisiloxane
OMCTS: Octamethylcyclotetrasiloxane

FIG.12

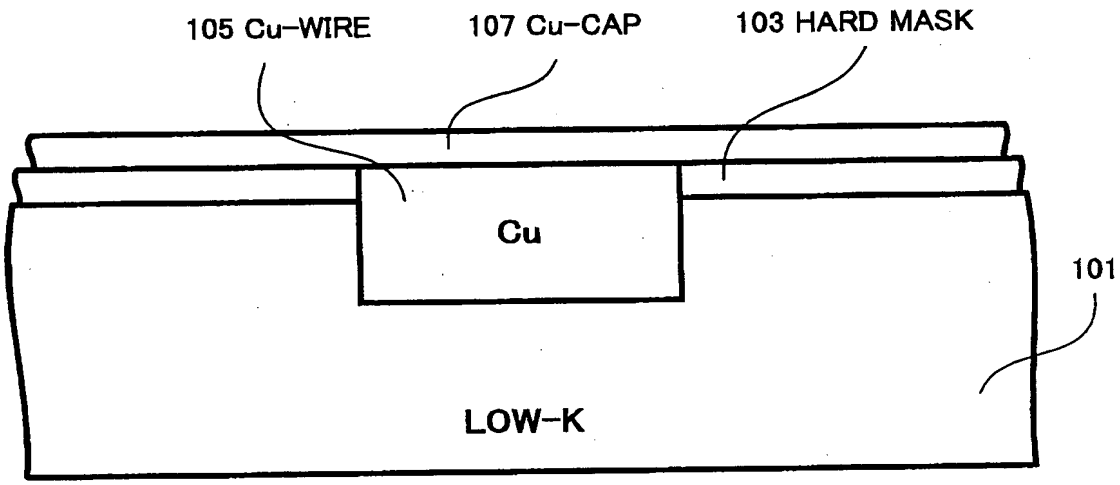

FIG.13

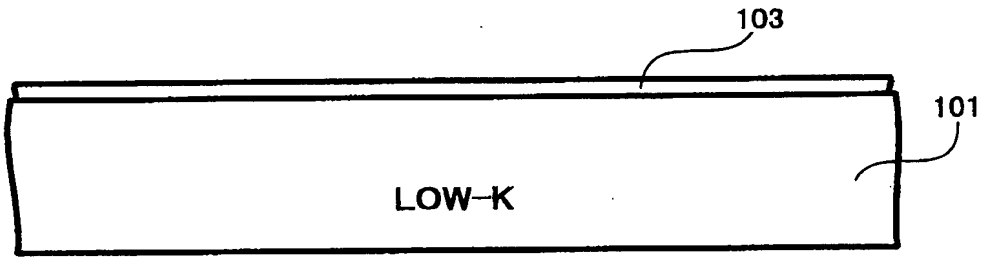

FIG.14A

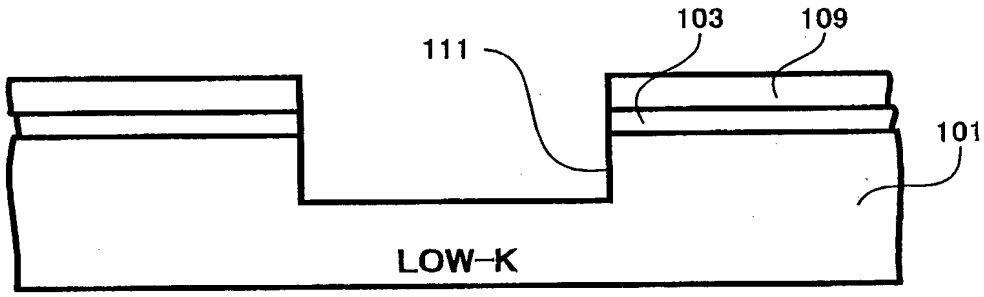

FIG.14B

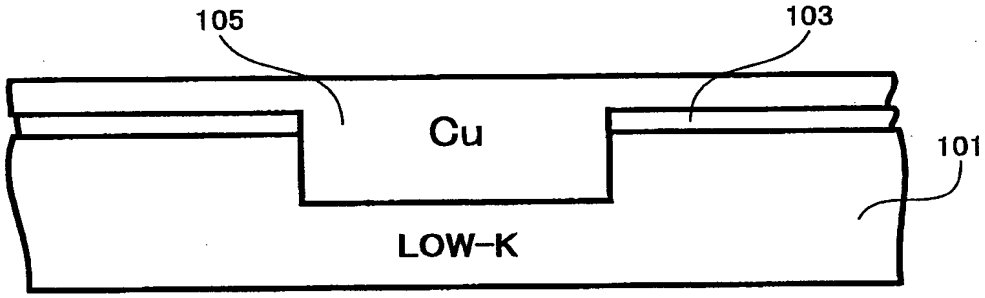

FIG.14C

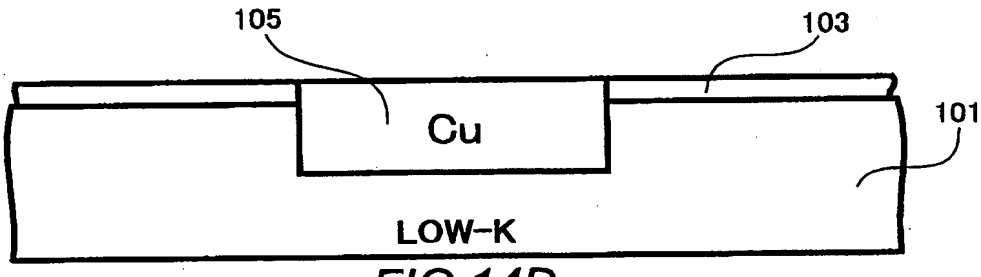

FIG.14D

He(C/E) (sccm)	HN3(C/E) (sccm)	O2(C/E) (sccm)	T/B (w)	Pressure (Torr)	Temperature (℃)	Time (minute)	Thickness (Angustrom)	Unification (1sgma%)
300/300	40/40	—/—	700/0	2.9	350	1.0	500	2.5
150/150	—/—	—/—	400/0	4.5	350	1.5	500	2.1
150/150	—/—	7.5/7.5	400/0	4.5	350	9.0	5000	4.0

FIG. 15

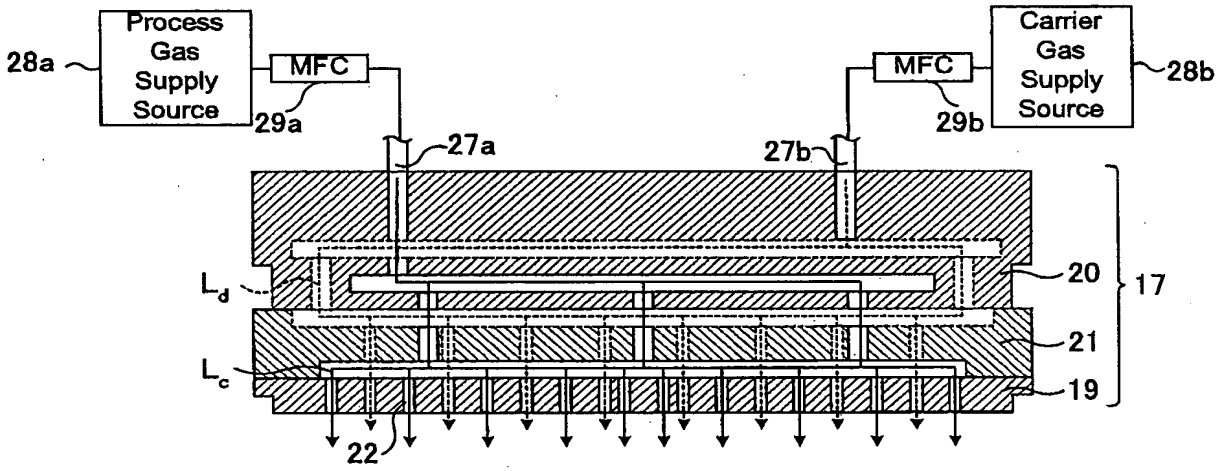
Process Gas Supply Source
28a
MFC
29a
MFC
29b
Carrier Gas Supply Source
28b
27a
27b
L_d
L_c
20
21
19
17
22

FIG.16

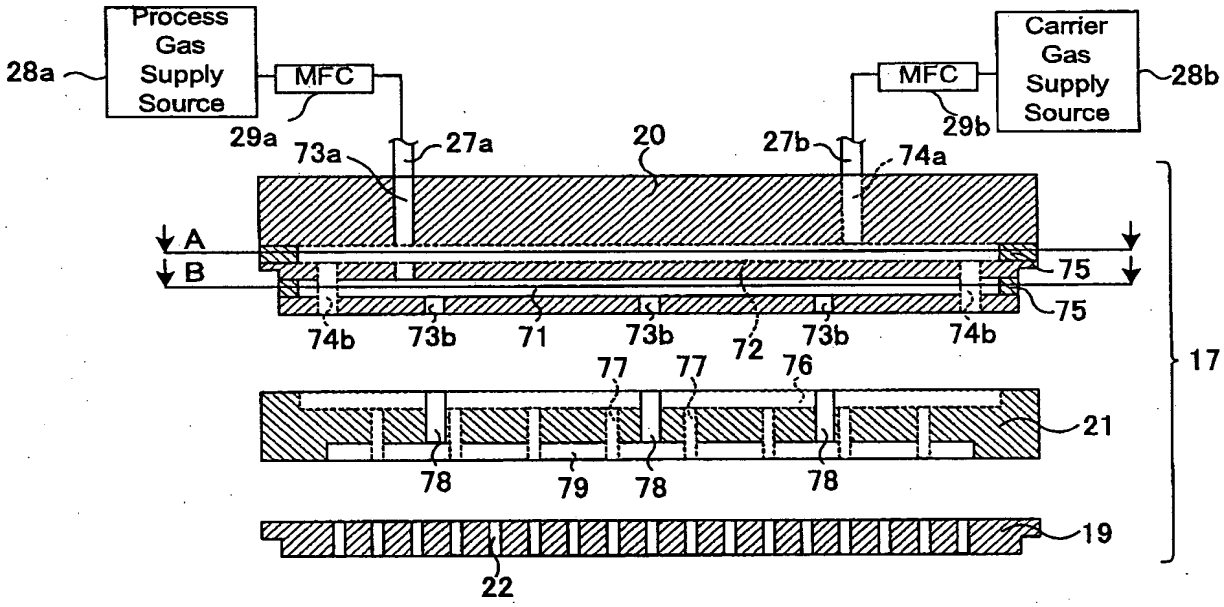
Process Gas Supply Source
28a
MFC
29a
MFC
29b
Carrier Gas Supply Source
28b
73a
27a
20
27b
74a
A
B
75
74b
73b
71
73b
72
73b
74b
77
77
76
21
78
79
78
78
19
22
17

FIG.17

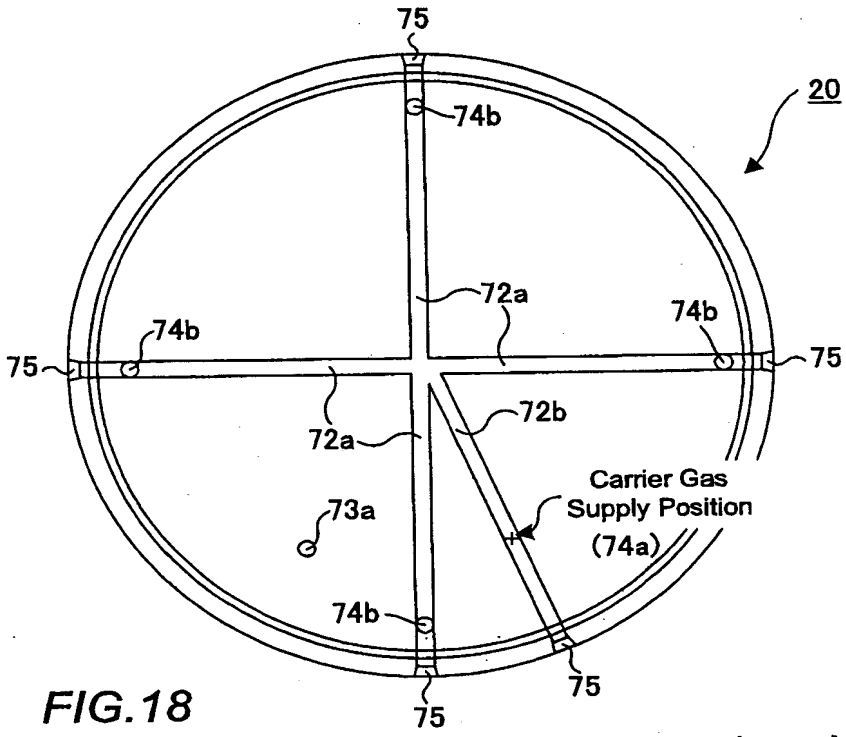

FIG.18

Cross-Section As Seen From Arrow A

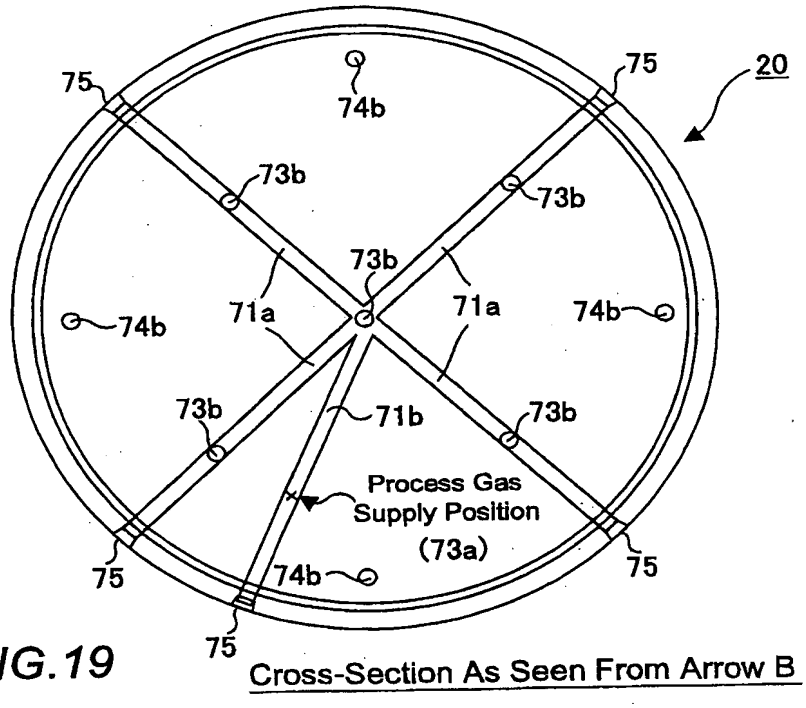

FIG.19

Cross-Section As Seen From Arrow B